signals for different degrees to the degree to which the flexible display 151 is bent or folded. Therefore, the controller 180 may determine the position at and the degree to which the flexible display 151 is bent or folded based on output data provided by the bend sensor 144. The bend sensor 144 may be placed in contact with the flexible display 151. The bend sensor 144 and the sensing unit 140 may form a layer structure together. In this case, the bend sensors 144 may be uniformly distributed on the flexible display 151.

[0042] The output unit 150 is adapted to output audio signals, video signals or alarm signals and may include the flexible display 151, a sound output module 153, an alarm unit 155, a haptic module 157 and so on.

[0043] If the flexible display 151 is bent, the output unit 150 output a sound though the sound output module 153 and a haptic effect though the haptic module 157 corresponding to control order from the controller 180.

[0044] The flexible display 151 displays and outputs information processed in the mobile terminal 100. For example, when a mobile terminal is in the call mode, the flexible display 151 displays a user interface (UI) or a graphic user interface (GUI), which is pertinent to a call. When the mobile terminal 100 is in a video call mode or a capturing mode, the flexible display 151 can display captured or received images individually or simultaneously and also display a UI or a GUI.

[0045] Meanwhile, in the case in which the flexible display 151 and a touch pad form a layer structure together and thus form a touch screen, as described above, the flexible display 151 may also be used as an input device other than an output device. If the flexible display 151 is constructed of a touch screen, it may include a touch screen panel, a touch screen panel controller and so on. In this case, the touch screen panel is a transparent panel attached to the outside and may be connected to an internal bus within the mobile terminal 100. The touch screen panel continues to monitor whether there is a touch input, and when there is a touch input, sends corresponding signals to the touch screen panel controller. The touch screen panel controller processes the corresponding signals received from the touch screen panel and transmits the corresponding data to the controller 180, so that the controller 180 can understand whether there has been a touch input or which area of the touch screen has been touched.

[0046] The flexible display 151 may include at least one of a liquid crystal display, a thin film transistor-liquid crystal display, an organic light-emitting diode, a flexible display, and a three-dimensional (3D) display. The mobile terminal 100 may include two or more flexible displays 151. For example, the flexible display 151 may stretch on both sides of the mobile terminal 100 and be disposed on a front casing.

[0047] The sound output module 153 outputs audio data, which is received from the wireless communication unit 110 in the incoming call mode, the call mode, the record mode, the voice recognition mode, the incoming broadcasting mode or the like or stored in the memory 160. The sound output module 153 also outputs sound signals pertinent to the functions performed in the mobile terminal 100, for example, sound of a received call signal and sound of a received message. The sound output module 153 may include a speaker, a buzzer or the like.

[0048] The alarm unit 155 outputs signals to inform the occurrence of events in the mobile terminal 100. For example, the events occurring in the mobile terminal 100 may include an incoming call signal, a received message, an entered key signal input and so on. The alarm unit 155 may also output

signals to inform the occurrence of events in different ways other than the audio or video signals. For example, the alarm unit 155 may output signals in a vibration form. When a call signal is received or a message is received, the alarm unit 155 may output a signal to inform the reception of the call signal or the message. Alternatively, when a key signal is input, the alarm unit 155 may output a signal as a feedback to the input key signal. A user can notice the occurrence of an event through a signal output by the alarm unit 155. It should be noted that a signal to inform the occurrence of an event might also be output through the flexible display 151 or the sound output module 153.

[0049] The haptic module 157 may provide various haptic effects (such as vibrations) that can be perceived by the user. If the haptic module 157 generates vibration as a haptic effect, the intensity and the pattern of vibration generated by the haptic module 157 may be altered in various manners. The haptic module 157 may synthesize different vibration effects and may output the result of the synthesization. Alternatively, the haptic module 157 may sequentially output different vibration effects.

[0050] The haptic module 157 may provide various haptic effects, other than vibration, such as a haptic effect obtained using a pin array that moves perpendicularly to a contact skin surface, a haptic effect obtained by injecting or sucking in air through an injection hole or a suction hole, a haptic effect obtained by giving a stimulus to the surface of the skin, a haptic effect obtained through contact with an electrode, a haptic effect obtained using an electrostatic force, and a haptic effect obtained by realizing the sense of heat or cold using a device capable of absorbing heat or generating heat. The haptic module 157 may be configured to enable the user to recognize a haptic effect using the kinesthetic sense of the fingers or the arms. The mobile terminal 100 may include two or more haptic modules 157.

[0051] The memory 160 can store programs necessary to process and control the controller 180 and also function to temporarily store input or output data (for example, a phonebook, messages, still images, motion images and the like).

[0052] The memory 160 may include at least one type of storage media, including a flash memory type, a hard disk type, a multimedia card micro type, card type memory (for example, SD memory, XD memory, and so on), RAM, and ROM. The mobile terminal 100 may also manage a web storage serving as the storage function of the memory 160 on an Internet.

[0053] The interface unit 170 functions as an interface with all external devices connected to the mobile terminal 100. Examples of the external devices connected to the mobile terminal 100 may include a wired/wireless headset, an external charger, wired/wireless data ports, a memory card, a card socket such as subscriber identification module (SIM) /user identity module (UIM) cards, an audio input/output (I/O) terminal, a video I/O terminal, an earphone, and so on. The interface unit 170 can receive data or may be supplied with power from the external devices, transfer the data or power to respective constituent elements of the mobile terminal 100, and transmit data of the mobile terminal 100 to the external devices.

[0054] The controller 180 typically controls the operation of each of the elements and controls an overall operation of the mobile terminal 100. For example, the controller 180 can perform pertinent controls and processes for voice call, data communication, video telephony, and so on. The controller